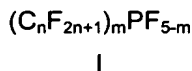


This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) Process for the preparation of monohydroperfluoroalkanes, bis(perfluoro-alkyl)phosphinates and perfluoroalkylphosphonates, comprising at least the treatment of at least one perfluoroalkylphosphorane with at least one base and, if desired, an acid in a suitable reaction medium.
2. (Original) Process for the preparation of monohydroperfluoroalkanes according to Claim 1, characterised in that at least one perfluoroalkylphosphorane is reacted with at least one base (a) or an organometallic compound in a suitable solvent.
3. (Original) Process for the preparation of bis(perfluoroalkyl)phosphinates and perfluoroalkylphosphonates according to Claim 1, characterised in that at least one perfluoroalkylphosphorane is reacted with at least one inorganic base (b) in a suitable solvent, the bis(perfluoroalkyl)phosphinates and perfluoroalkylphosphonates formed in addition to the monohydroperfluoroalkanes are converted into the corresponding bis(perfluoroalkyl)phosphinic acids and perfluoroalkylphosphonic acids directly or after isolation by salt interchange or subsequent treatment with an acid, preferably sulfuric acid, and the salts are obtained by subsequent neutralisation, preferably using organic bases (c).
4. (Original) Process according to Claim 1, characterised in that the perfluoroalkylphosphorane employed is a compound of the general formula I



in which  $1 \leq n \leq 8$ , preferably  $1 \leq n \leq 4$ , and m in each case denotes 1, 2 or 3.

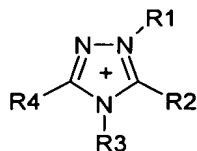
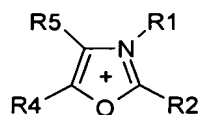
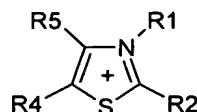
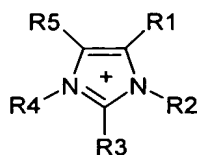
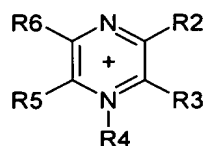
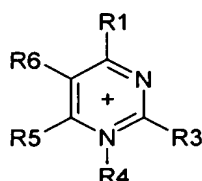
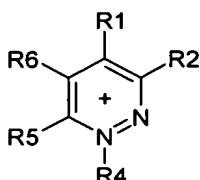
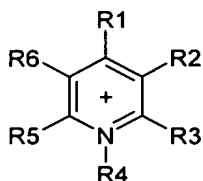
5. (Original) Process according to Claim 1, characterised in that the perfluoroalkylphosphorane is selected from the group consisting of difluorotris(pentafluoroethyl)phosphorane, difluorotris(nonafluorobutyl)phosphorane, difluorotris(n-heptafluoropropyl)phosphorane and trifluorobis(nonafluorobutyl)phosphorane.
6. (Currently Amended) Process according to Claim 2 or 3, characterised in that the base (a) or (c) employed is at least one organic base.
7. (Original) Process according to Claim 6, characterised in that the organic base(s) is (are) selected

from the group consisting of alkylammonium hydroxides, arylammonium hydroxides, alkylarylammonium hydroxides, alkylphosphonium hydroxides, arylphosphonium hydroxides, alkylarylphosphonium hydroxides, alkylamines, arylamines, alkylarylamines, alkylphosphines, arylphosphines and alkylarylphosphines.

8. (Currently Amended) Process according to Claim 2 ~~or~~ 3, characterised in that at least one inorganic base (a) or (b) is employed.
9. (Original) Process according to Claim 8, characterised in that the inorganic base(s) is (are) selected from the group consisting of alkali metal hydroxides and alkaline earth metal hydroxides.
10. (Original) Process according to Claim 9, characterised in that the alkali metal hydroxide is selected from the group consisting of lithium hydroxide, lithium hydroxide monohydrate, sodium hydroxide and potassium hydroxide.
11. (Original) Process according to Claim 9, characterised in that the alkaline earth metal hydroxide is selected from the group consisting of barium hydroxide, barium hydroxide octahydrate and calcium hydroxide.
12. (Original) Process according to Claim 2, characterised in that the organometallic compounds are selected from the group consisting of metal alkoxides, preferably alkali metal alkoxides, metal aryloxides, metal alkylthiooxides, metal arylthiooxides, alkylmetal compounds, arylmetal compounds and Grignard reagents.
13. (Original) Process according to Claim 1, characterised in that the reaction medium is water, if desired mixed with one or more organic solvents.
14. (Original) Process according to Claim 1, characterised in that the reaction medium employed is one or more organic solvents.
15. (Currently Amended) Process according to Claim 13 ~~or~~ 14, characterised in that the organic solvent is selected from the group consisting of alcohols, ethers, acylamides, sulfoxides, sulfones, nitriles and hydrocarbons.
16. (Original) Process according to Claim 15, characterised in that the alcohol has from one to four carbon atoms in the alkyl moiety and is preferably selected from the group consisting of methanol, ethanol, isopropanol and mixtures of at least two of these alcohols.
17. (Original) Perfluoroalkylphosphonates and bis(perfluoroal)kylphosphinates selected from the

group consisting of partially alkylated and peralkylated ammonium, phosphonium, sulfonium, pyridinium, pyridazinium, pyrimidinium, pyrazinium, imidazolium, pyrazolium, thiazolium, oxazolium and triazolium salts.

18. (Original) Perfluoroalkylphosphonates and bis(perfluoroalkyl)phosphinates according to Claim 16, having a cation selected from the group consisting of



where  $R^1$  to  $R^5$  are identical or different, are optionally bonded directly to one another via a single or double bond and are each, individually or together, defined as follows:

- H,
- halogen, where the halogens are not bonded directly to N,
- an alkyl radical ( $C_1$  to  $C_8$ ), which may be partially or completely substituted by further groups, preferably F, Cl,  $N(C_nF_{(2n+1-x)}H_x)_2$ ,  $O(C_nF_{(2n+1-x)}H_x)$ ,  $SO_2(C_nF_{(2n+1-x)}H_x)$ ,  $C_nF_{(2n+1-x)}H_x$ , where  $1 < n < 6$  and  $0 < x \leq 2n+1$ .

19. (Currently Amended) Use of the perfluoroalkylphosphonates and bis(perfluoroalkyl)phosphinates according to Claim 17 ~~or 18~~ as ionic liquids.

20. (Currently Amended) Use of the perfluoroalkylphosphonates and bis(perfluoroalkyl)phosphinates according to Claim 17 ~~or 18~~ as phase-transfer catalyst or surfactants.